SECTION 5. SELECTED PRACTICES

1013. GENERAL. This section contains general background information and guidance for inspectors on selected topics and practices relating to aircraft performance and data acquisition systems for Part 121 and 135 operators.

1015. NON-TRANSPORT CATEGORY AIRPLANE OPERATING LIMITATIONS. FAR 121.157 prohibits operators from using large airplanes certified after June 30, 1942 in revenue service unless the airplanes are certified in the transport category. Both Part 121 and 135 operators may, however, use in revenue service large airplanes that were certified prior to July 1, 1942. These airplanes are termed "large, non-transport category airplanes." Very few types of large, non-transport category airplanes remain in active revenue service. A few operators continue to operate the DC-3, the C-46, and the Lockheed 18.

A. *Airplanes Recertified in the Transport Category.* Some airplanes which were originally certified before July 1, 1942 have subsequently been modified and recertified in the transport category. Operators may only use C-46 type airplanes certified in the transport category in passenger-carrying operations. When an operator operates one of these airplanes in Part 121 or 135 service, the operator must show compliance with FAR 121.199 through 121.205 or FAR 135.389 through FAR 135.395 by means of data approved in the type certification process.

B. *Non-Transport Category Airplanes.* Operators using large, non-transport category airplanes must show compliance with the performance requirements of FAR's 121.199 through 121.205 with data that has been approved by the Administrator. Operators must keep the data in the airplane in a place conveniently accessible to the pilot while the airplane is in flight.

C. *C-46 Cargo-Only Operations.* Operators using C-46 type airplanes in cargo-only operations may use data extracted from Appendix C of FAR 121 to show compliance with the requirements of FAR's 121.157, 121.199, 121.201, 121.203, and 121.205.

D. *Evaluation of Performance Data.* Principal operations inspectors (POI's) who receive requests from operators to approve performance data for large, non-transport airplanes should contact the Aircraft Evaluation Group-Long Beach, ANM-270L, (310) 988-5273, for direction and guidance.

1017. APPROVAL OF DRIFT-DOWN AND FUEL-DUMPING PROCEDURES. Operators may request FAA approval of drift-down or fuel dumping to show compliance with FAR terrain clearance requirements. The POI may approve the drift-down and fuel dumping procedures in accordance with the guidance of this paragraph.

A. *Approval Procedures.* POI's should grant approval of drift-down and fuel dumping procedures by means of a nonstandard paragraph in Part B of the operations specifications (OpSpecs). The POI may enter the entire procedure into the OpSpecs paragraph. The preferred procedure, however, is for the POI to enter a reference to the section of the operator's general operations manual (GOM) which contains the procedure, the limitations, and the data.

B. *Drift-Down Data and Procedures.*

(1) Operators should base their proposals on man- ufacturer data and recommended procedures. In the absence of such data and procedures, the operator must develop the necessary data and procedures.

(2) The POI should require the operator that creates drift-down procedures to validate the procedures and data through validation tests.

(3) Because of the complexities involved, the POI should coordinate with the regional flight standards division (RFSD) and the aircraft evaluation group (AEG).

(4) The POI should also request that the RFSD coordinate the operator's proposal with air traffic control (ATC) to avoid possible air traffic conflicts.

C. *Training Programs and Manuals.* When the operator adopts drift-down or fuel dumping procedures, the proce-

dures, limitations, and performance data must be included in the operator's manuals and training program.

1019.EN ROUTE OPERATIONS WITH LANDING GEAR EXTENDED. This paragraph contains direction and guidance to be used by POI's when reviewing and accepting an operator's procedures for en route operations with the landing gear extended. There are two gear-down situations for which operators may seek approval. In the first situation, the operator may seek approval to dispatch an aircraft with the landing gear secured in the down position. In the second situation, the flightcrew may not be able to retract the landing gear after takeoff. In most circumstances, an operator cannot comply with the performance requirements of Part 121, Subpart I or Part 135, Subpart I when the landing gear cannot be retracted after takeoff. The PIC of such a flight is normally forced to return to the departure airport or to divert to a takeoff alternate airport. Operators may, however, operate a revenue flight with the gear down when the operator can show compliance with regulatory requirements. POI's should review the following:

A. *Procedures and Data.* Operators must provide flight crewmembers with procedures and approved airplane performance data for gear extended operations. The procedures must include speed limitations and fuel consumption data sufficient to show compliance with regulatory requirements. POI's should ensure that the operator has included this information in the operator's company flight manual (CFM). Instruction on procedures must be included in the operator's training program.

B. *Amended Release.* POI's should verify that the operator's GOM contains adequate direction and guidance to both PIC's and flight control personnel for amending the dispatch or flight release. POI's should coordinate review of manual material with the principal maintenance inspector (PMI).

1021. HIGH-SPEED TAXI STARTS WITH ONE POWER-PLANT INOPERATIVE. Flight Standards Service (FSS) safety policy is not to accept high-speed taxi start procedures due to the increased risk involved with these operations. When an operator makes a compelling case for approval for such procedures, the POI should coordinate with AFS-200 through the RFSD.

1023.APPROVAL OF UNPAVED RUNWAYS FOR TURBOJET OPERATIONS. This paragraph contains direction and guidance to POI's for approval of the use of unpaved runways for Parts 121 and 135 operators. Although the FAA discourages the operation of turbojet equipment on other than hard-surfaced runways, operation of such equipment from a well compacted non-paved surface is possible. Unpaved runways can be certified in accordance with Part 139 and FAR 121.590 in order to meet the requirements of Part 121 operators. Airport requirements for Part 135 operators are contained in FAR 135.229.

A. *Approval of Landing Surface.* POI's must approve the use of an unpaved runway surface for turbojet operations. Approval for this type of operation must be based on actual flight test performance data acceptable to the responsible aircraft certification group, the AEG, and flight test engineering. Before the POI approves turbojet operations at any airport with other than paved runways, the POI will determine that the following conditions are met:

(1) Takeoff and landing field lengths must be based on approved flight test data for the particular type aircraft on the type of runway surface to be used.

(2) Flight testing must show that foreign object ingestion into the engines and gravel impingement upon the aircraft structure are not significant factors.

(3) The surface of the runway to be used must be reasonably stable throughout the various weather seasons; otherwise, the operations must be restricted to particular seasons.

B. *Approval Procedures.* An airport with unpaved runways is required to have special operational procedures and flight crewmember training. Approval of operations at an airport with unpaved runways is granted in OpSpecs paragraph C67. POI's may reference the appropriate section of the operator's manuals in paragraph C67.

1025. AIR CARRIER WINTER OPERATIONS. This paragraph contains guidance to be used by inspectors for reviewing those portions of manuals, procedures, and training programs concerning operations in winter weather conditions. The POI must ensure that the operator's manuals contain specific instructions and information to flightcrews for operating each type of aircraft operated in

adverse weather conditions or prohibit such operations. The POI should also review the content of the operator's training program to ensure adequate coverage of adverse weather operations.

A. *Training Requirements*. The following subject areas should be considered in the operator's training program that is related to winter operations. These items are neither comprehensive nor exclusive, and the POI may require additional criteria.

- The requirement for a thorough preflight inspection in extreme temperatures
- A description of the performance and control problems that would differ from normal conditions during takeoff and landing with water, slush, or wet snow on the runway
- The speed, weight, and runway length adjustments that would be made when operating on contaminated runways
- Criteria for takeoff, en route, and destination weather conditions
- The causes and effects to the aircraft from hydroplaning or aquaplaning
- The effects of increased viscosity of fluids in cold temperatures
- Adverse effect of cold temperatures on hydraulic fittings and seals
- The effects of cold weather conditions to fuel pumps and fuel filter drains
- Fuel contamination, fuel leaks caused by cold weather operations
- The hazards associated with wet snow or slush in wheel wells when entering freezing temperatures
- Techniques and procedures for braking, steering, and reversing with water, slush or snow on taxiways and runways
- Deicing and anti-icing procedures and equipment for frost, ice, or snow removal from airfoils, control surfaces, and static ports
- Proper adjustment of cables and rods used to manipulate flight controls
- A description of landing surface conditions and appropriate braking action

B. *Pertinent References*. Inspectors should be aware of the following advisory circulars and booklet, and should bring them to the attention of operators:

- AC 91-13, "Cold Weather Operation of Aircraft"; for discussion of aircraft cold weather preparation and operations
- AC 91-6, "Water, Slush, and Snow on the Runway"; for guidelines concerning the operation of turbojet aircraft with water, slush, wet or dry snow on runways
- AC 135-9, "FAR Part 135 Icing Limits"; for guidance concerning compliance with FAR 135.227
- AC 91-51, "Airplane Deice and Anti-Ice Systems"; for information on ice protection system approval and the results of inflight icing
- "Winter Operations Guidance for Air Carriers"; booklet prepared by FSS

1027. DEVIATION FOR OBSTACLE CLEARANCE DATA FOR CERTAIN TURBOJET AIRPLANES IN PART 135 OPERATIONS. This paragraph contains direction and guidance to be used by POI's when issuing operators of certain transport category airplanes a deviation to FAR 135.367(a)(3) or FAR 135.379(d).

A. *Background.* FAR 135.367(a)(3) and FAR 135.379(d) require Part 135 operators of transport category airplanes to acquire airport obstacle data and compute obstacle clearance limited takeoff weights.

(1) FAR 135.363(h) authorizes the FAA Administrator to issue deviations to Subpart I of Part 135 if "special

circumstances make a literal observation of a requirement unnecessary got safety."

(2) Normal category airplanes certified under the provisions of SFAR 23 and SFAR 41 can be operated with up to 19 passenger seats and 19,000 pounds maximum takeoff weight (MTOW) without requiring the operator to collect obstruction data or compute obstacle clearance performance data. Safety records of these aircraft indicate no record of accidents caused by contact with obstacles around departure runways either with or without an engine failure. Further, transport category airplanes have more stringent engine-out climb performance requirements than do airplanes certified in the normal category. Consequently, FSS has determined that, under limited conditions, there is no degradation in the level of safety provided when transport category airplanes (with up to 19,000 pounds MTOW or 19 passenger seats) are operated without complying with these rules.

B. *Conditions of the Deviation.* The operator is authorized to conduct takeoff operations using transport category airplanes weighing no more than 19,000 pounds and having a seating configuration of no more than 19 passenger seats without showing compliance with FAR 135.367(a)(3) and FAR 135.379(d). This authorization is limited to only the following operations conducted:

- At airports of 4,000 feet MSL or less field elevation
- On runways on which the available length of runway is equal to or greater than 150 percent of the runway required by FAR 135.367(a)(1) and (2) or FAR 135.379(c), as applicable
- In weather conditions equal to or greater than straight-in Category I landing minimums for the runway being used

C. *Method of Granting the Deviation.* The POI should ensure that the operator has included the limitations of this deviation in the operator's GOM. The operator must also provide direction and guidance concerning how to obtain obstacle data and compute obstacle clearance performance in the GOM when the limitations of the deviation are not met. The operator must also include these limitations and procedures in the approved training program. When these conditions have been met, the POI may grant approval to the operator for the deviation by placing the text of subparagraph B in paragraph C67 of the operator's OpSpecs.

1028. - 1064. RESERVED.

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